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Eradication of poverty and other development issues: human resources development

Human resources development

Report of the Secretary-General

Summary

The present report, prepared in response to General Assembly resolution 58/207 of 23 December 2003, provides an overview of the need for promoting comprehensive and cross-sectoral approaches to human resources development. It also emphasizes the mutually reinforcing relationship between human resources development and the realization of the internationally agreed development goals, including those contained in the Millennium Declaration, and how both should be pursued in the context of national development strategies. As stipulated by the General Assembly, the report specifically focuses on the need for investment in human resources development, gender mainstreaming and equality, the role of information and communication technologies, the role of the public sector and its broad-based engagement in the formulation and implementation of national and local policies to promote human resources development and the role of United Nations system support. It also addresses the impact of the movement of highly-skilled and educated people on human resources development in developing countries and makes a number of related recommendations.

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I. Introduction

1. Human resources development is essential in enabling people to enlarge their choices[1] and expand their freedoms.[2] At the core of human resources development is the concept of human development, which relates to people's physical well-being, such as health, nutrition, education, and to the widening of choice and enhanced empowerment, including participation, political freedoms and cultural aspects. What people can positively achieve is influenced by and interconnected with economic opportunities, political liberties, social powers, and the enabling conditions of good health, basic education, and the encouragement and cultivation of initiatives. Human resources development is fundamental to the achievement of these freedoms.

2. In the Millennium Declaration, the right of individuals to lead a productive life is stressed. The Millennium Project, which focuses on how to achieve the Millennium Development Goals, has presented the Goals as the means to build the human capital needed to enable individuals to lead a productive life. A healthier, better nourished worker is a more productive worker, and improved water and sanitation infrastructures reduce illness and raise output per capita.

3. The challenge of human resources development has thus evolved into a much broader socio-economic and public policy concept, embracing more comprehensive, cross-cutting and cross-sectoral approaches that combine investment in economic growth with investment in the provision of basic social services as well as in other relevant sectors in order to enhance the pool of individuals who act as productive agents (human capital) for development.

4. Increases in human resources facilitate both broader participation in economic and social life and augment economic productivity and income. Sustained human resources development requires sustained investment, not only for economic growth, but also for poverty eradication, provision of basic social services, sustained livelihood, empowerment of women, involvement of youth and vulnerable indigenous groups and all other sectors essential to building human skills and capabilities. This warrants cross-cutting and cross-sectoral approaches, captured in the internationally agreed development goals, to address basic human development needs and all other requirements necessary to build human capital for sustained economic growth and development.

5. Globalization and the evolution of information and communication technologies have increased the international dimension of this issue. International mobility, in particular the migration of skilled labour, has a direct impact on the effectiveness of national policies and achievements in human resources development. The lack of human resources development in developing countries has repercussions on a number of other areas beyond national borders, including human security, international stability and peace. The management of this issue thus requires both national and global responses.

6. The present report builds on earlier reports on this subject and has been prepared in response to General Assembly resolution 58/207. As stipulated in the resolution, the report examines the strategic framework for investment in human resources development and considers the role of gender mainstreaming and equality, science, technology, information and communication technologies and the public sector in promoting human resources development (see sect. II below). It also discusses United Nations system efforts to support developing countries in these

areas. In addition, the report focuses on the impact of the movement of skilled labour and analyses the level and characteristics of the migration of skilled labour, the issue of its management and proposed measures for a shift from "brain drain" to "brain circulation" (see sect. III below).

II. Challenges of human resources development and emerging approaches

A. Investments in human resources development

7. National development strategies that have successfully triggered a virtuous cycle of economic performance focused both on macroeconomic growth and human development. While there is no unique path to trigger a virtuous cycle, it is more likely to occur when economic growth is based on an adequate rate of investment and equitable income distribution through employment generation and poverty eradication policies and when there are high ratios of government expenditure in human development. It is widely recognized that investment, whether domestically or externally financed, in areas such as health, nutrition, education, training, skills development, capacity-building and research and development, contributes significantly to building the human resources necessary to ensure a virtuous cycle of sustained economic growth. For example, data on education reveals that while investment flows affect economic profitability in the short run, human resources development affects profitability and economic growth in the long run. The education of the female population has shown to be critical in ensuring economic growth and human resources development.

8. A useful strategic framework for investing in human resources development is offered by Gustav Ranis and Frances Stewart,[3] who suggest, and demonstrate empirically, that a successful method of generating a virtuous cycle of both higher economic growth and human capital development is to give priority to human development. A path that postpones human development until the expansion of economic resources makes it affordable will make economic growth unsustainable and will eventually reduce countries to a vicious cycle, with failures in both human development and economic growth. Evidence showed that no country has succeeded in moving from economic growth-biased development processes to a virtuous cycle. The diversion of resources away from human development, unequal distribution of income and/or low social expenditure ratios invariably leads to unsustainable economic growth.

9. Countries that have been successful in integrating into the world economy, such as the Republic of Korea, Singapore, Malaysia, Mauritius and Ireland, have adopted comprehensive approaches carefully combining targeted investment in human resources with investment in physical capital and industries. Countries that have made early progress in human development have a better chance of sustaining their human resources record during difficult economic downturns and periods of adjustment.

10. Progress in human resources development in general is far from uniform throughout the world, with huge disparities between and within countries. In the majority of developing countries, maintaining adequate capital investment rates and sustained investment in human development has proven to be very difficult. Poor

countries have not been able to maintain a sufficient level of savings and investment rates to meet both economic growth and human development. In most situations, there is either (a) good economic growth but poor human development because of low public expenditure, or (b) good human development but poor economic growth because the investment rate is too low. Some countries are caught in a poverty trap of severe resource constraints resulting in low saving rates, low tax revenues and low foreign investment. This is likely to be accompanied by violent conflicts, brain drain, high birth rates and rapid population growth, environmental degradation and a low level of innovation, all of which adversely reinforce and amplify poverty and further deplete the human resources base.

11. HIV/AIDS, brain drain and rapid economic, social and technological changes have contributed to the further depletion of the scarce resources of developing countries and of their capacity to build the human resources necessary to create and sustain economic growth. The scale and magnitude of the HIV/AIDS epidemic is unique because it affects the young and most productive members of society. In many countries, AIDS is rolling back decades of development advances, deepening poverty, reversing achievements in education, diverting health budgets away from other priorities and reducing economic growth. It is estimated that by 2006, 11 countries in sub-Saharan Africa will have lost more than one-tenth of their labour force to AIDS. In 2004 alone, 3.1 million people died of AIDS, more than 80 per cent of whom were adults in their most productive years. The epidemic is straining local coping mechanisms, generating greater demand for social services, eroding government capacity to deliver basic social services and creating a need for the design and implementation of additional HIV/AIDS programmes, alongside those required for current prevention, treatment and care.

12. The move towards knowledge- and skills-based societies and fast integrating markets has further increased the institutional requirements and pressures on developing countries to integrate in the global economy. The 2005 report of the Secretary-General on globalization and interdependence examines these challenges. The task of developing countries is further complicated by continuous economic, social and technological changes. **To close the skills gap with developed countries, developing countries will need to adopt more comprehensive economic, labour market and social policies promoting economic and employment growth. Supply-side policies, such as those on science and technology, education and training and industry and enterprise will need to be combined with policies that expand aggregate demand in the economy, such as policies targeting the labour market, social issues, investment-friendly economic policies, income distribution and fiscal policies, social security and basic incentives to invest in training.**

13. Financial shocks might also worsen or cause temporary poverty, which negatively affects human resources and exacerbates inequalities in developing countries. Without donor support, transient poverty may lead to chronic poverty. **Donor support should focus on the provisions of insurance programmes, microcredit programmes, crop insurance programmes, employment guarantee schemes and price stabilization policies to help stricken countries deal with the effects of transient poverty and avoid unravelling accrued development gains.**

14. Breaking the poverty trap in some of the poorest countries requires a basic investment in public administration, human resources and key infrastructure.

Without the support of the international community, the poorest countries will not be able to establish an adequate infrastructure and the human resources to enable them to escape the poverty trap. In diverse countries and regions the differences with regard to the affordability of human resources development and external financing needs are extremely large. In sub-Saharan Africa, external aid plays the largest role, since most countries are still in the process of development and possess limited capacity to mobilize domestic funds to build human resources. In the majority of developing countries, poor human development is concentrated in specific regions and in certain segments of the population. Rural areas are generally worse off than urban areas. In many countries, limited rural educational opportunities are the reason for a low overall level of education.

15. The core goal of effective investment in human resources development is to reach the largest proportion of the population and to ensure the sustainability of human resources development through comprehensive human resources development strategies, which should be an integral part of national development strategies, or poverty reduction strategies, where they exist. **Scaling-up investment requires policy coherence and the integration of human resources development into the overall national development strategies in order to ensure effective and sustainable investment in addition to national commitment and partnership among all development partners to ensure adequate allocation of resources.**

B. Gender mainstreaming and gender equality in human resources development

16. Women continue to be among the disadvantaged groups denied opportunities that are central to participation in the social, political and cultural life of society. This is mainly the result of their limited access to education, skills training, health care and employment.

17. The exclusion of women has an important impact not only on their well-being and development, but also on the ability of countries to reduce poverty and facilitate economic growth. There is abundant evidence that the education of the female populations improves child nutrition and survival levels: the higher the level of schooling received, the lower the number of children born and the lower the rate of infant mortality. A study in Brazil indicates that an increase in the non-labour income of women increases the probability of child survival by 20 times that of an equivalent increase in the non-labour income of men.

18. The assumption is that enhancing female access to education, skills training, health care and employment will reduce overall poverty and positively affect sustained human resources development and economic growth. It would also reduce inequalities in income distribution and employment opportunities and conditions. Economists increasingly utilize economic efficiency rationales to encourage investment in women's development and capacity.

Gender equality and economic efficiency

Research on agricultural productivity in Africa shows that reducing gender inequality could significantly increase agricultural yields. For instance, studies have shown that giving women farmers in Kenya the same level of agricultural inputs and education as men could increase yields of farms by more than 20 per cent.

Research on economic growth and education shows that failing to invest in women's education can affect the growth of the gross national product (GNP). Everything else being equal, countries in which the ratio of female-to-male enrolment in primary or secondary education is less than .75 can expect levels of GNP that are roughly 25 per cent lower than countries in which there is less gender disparity in education.

Gender inequality also reduces the productivity of the next generation. The World Bank reports mounting evidence that increases in women's well-being yield productivity gains in the future. The probability of children being enrolled in school increases with their mothers' educational level and extra income going to mothers has more positive impact on household nutrition, health and education of children than extra income going to fathers.

19. The bias against women having access to land and credit partly explains why poverty among women is more widespread. In most countries, women and men are active in different sectors and occupations in the formal and informal sectors. Women are also more likely than men to be in low-paid jobs and "non-standard" work (part-time, temporary, home-based) and are more likely to have less access than men to productive assets such as education, skills, property and credit. These patterns mean that economic trends and economic policies are likely to affect women and men differently.

20. Governments throughout the world are already taking action to promote better access by women to education, training and skills development in various ways. Women are among those specifically targeted by many government training and employment support programmes. Training programmes for girls and women have been successful in improving the level of their skills and their employability. This is particularly true of training that is geared to market opportunities and provided as part of an integrated and targeted set of measures to promote the labour market inclusion of women, as opposed to stand-alone programmes.

21. **To enhance the well-being and economic potential of women, a gender perspective should be mainstreamed in the analysis and formulation of human resources development policies. This will help redress gender differences and inequalities in human resources development and improve access to productive activities. Targeted activities to promote the advancement of women and gender equality should also be promoted in order to address serious gender gaps, support women's empowerment and develop their leadership capacities.**

22. A first step to developing gender-based human resources strategies and policies in developing countries is to build their statistical capacity to collect and analyse sex-disaggregated data. This will increase their capacity to understand and address development issues, including human resources development and economic growth, from a gender perspective. It will also facilitate the formulation of appropriate policies and programmes, including mechanisms and institutions to enable the expression and integration of gender concerns in the decision-making process. A key challenge will then be to translate research and knowledge on gender perspectives at the micro-level into macro-level policy, planning and institutional development decisions. Commitment to identifying gender perspectives in human resources development, as well as in all other policy areas, is fundamental to this endeavour and to the formulation of appropriate strategies.

23. **Subsequent steps to enhance gender mainstreaming and equality in human resources development should focus on: developing a quantitative measure of the contribution of women to the economy; developing sex-disaggregated data for the formulation of human resources development policies and strategies that are gender sensitive; identifying institutional changes that allow the increased participation of women in the economy; facilitating consultation and participation of women in policymaking and in all phases of development activities; and investing greater resources to the enhanced understanding of gender impacts and monitoring progress.**

C. The role of knowledge, science and technology, including information and communication technologies, in human resources development

24. The recent report of the United Nations Millennium Project and the report of the Secretary-General, "In larger freedom: towards development, security and human rights for all" (A/59/2005), have both highlighted the importance of science, innovation and technology in realizing the Millennium Development Goals and related national development priorities. Building institutions and a critical mass of knowledge and technical workers to advance science, technology and innovation is a clear goal of the Millennium Development Goal-based development initiatives of many countries seeking to build strong economies and to participate fully in technology-driven global business development. Information and communication technologies have an important role to play in this area. The strategic, widespread, intensive and innovative use of information and communication technologies in national development polices and programmes can facilitate the achievement of the internationally agreed development goals, including those contained in the Millennium Declaration, and can increase the pool of trained people needed to advance science and technology. Knowledge, science and technology, especially information and communication technologies, the key building blocks for future economic and social development and job creation, require an enormous social investment in the promotion of scientific and technological capacities. Poor countries have largely been spectators, or at best users, of the technological advances produced in high-income countries.

25. **There is a need to build the scientific and technological capacities of developing countries, which will help promote their economic growth and solve**

their scientific challenges. In the case of information and communication technologies, while not all countries have sufficient infrastructure, incentives and partnerships in place to develop such a technology sector, all countries could benefit from using these technologies.

26. Information and communication technologies can empower people to make better choices through improved information flows, increased formal and informal educational opportunities and human as well as institutional capacity development. They can also directly spur economic growth by creating opportunities and addressing barriers and inefficiencies through increased transparency and accountability.

27. Information and communication technologies are finding their way in virtually every sector of the economy and all aspects of social life, from the workplace to health care and education, to governance and human rights. They are becoming an important tool for human resources development, in advocacy, information access and dissemination, and as a tool for disseminating knowledge and facilitating learning. Increasingly, the programmes, strategies and methods of institutions rely on information and communication technologies to provide education and training.

28. Access to such technologies, however, remains an important challenge for many developing countries, some of which, especially countries in sub-Saharan Africa and the least developed countries, lack sufficient access to telecommunications. Yet even when telecommunications systems are installed and accessible, without literacy and basic computer skills, people will have little ability to access the network society.

29. The increasing profile and importance of the use of information and communication technologies in the educational sector are visible in many developing countries. These technologies are now used widely for education in many least developed countries. More needs to be done, however, to establish the effectiveness of ICT investments in education, in promoting educational reform in general and Education for All goals in particular. The challenges facing education systems in most of these countries are formidable and sometimes intractable. In countries in which the teacher corps has been ravaged by AIDS, where the number of schools is grossly inadequate, where equal educational opportunities for girls are lacking and where desperate poverty exists, information and communication technologies can play a role in helping to overcome these challenges.

30. E-learning is making inroads in schools, colleges, community centres, training institutions and universities. The flexibility and affordability of information and communication technologies in developing countries, when available, has helped reduce the costs associated with human resources development, including educational costs and the cost of health-care services. For example, information on prevention and diseases is disseminated more effectively online, while access costs for consumers to health-care centres are being reduced. The flexibility and affordability of information and communication technologies has also helped to maximize human capital gains, since it has proved to enable more effective ways of learning. Distance learning programmes are expanding at a rapid pace. "Mega-universities" provide distance learning programmes to some 2.8 million students a year.

31. The rapid expansion of distance learning generated by information and communication technologies has also had the effect of increasing the access of disadvantaged groups, including people living in remote communities, to information and learning opportunities, presenting an unprecedented opportunity to focus on and address more systematically the specific human resources needs of these groups and to better target action. A classic example is the Telesecundaria programme in Mexico, which reaches some 700,000 students in 100,000 small, remote communities with few schools and teachers. In some countries, information and communication technologies are playing an important role in counteracting brain drain. Internet exchanges can play a significant part in recapturing the expertise of expatriates, who transfer knowledge and technology to their home country, thus contributing to human resources development. In the 1990s, the Internet was key to the growth of expatriate organizations. In this regard, the United Nations Information and Communication Technologies Task Force has helped establish African and Caribbean diaspora networks in North America and Europe.

32. In a development strategy driven by information and communication technologies, capacity-building and infrastructure development need to be shaped by a vision of the competencies and skills that people need to acquire in using the new technologies. These technologies, which have changed the nature of work and the type of skills required in most fields and professions, pose a challenge to educational systems that must produce workers with the requisite skills and who are adaptable and receptive to lifelong learning.

33. **An effective use of information and communication technologies for human resources development in developing countries should rely on favourable national policies, government support and regulatory frameworks, as well as increasing access to such technologies and the capability to use them. Government policies should also facilitate the active engagement of the private sector and all relevant stakeholders in building the necessary infrastructure for the development of information and communication technologies and related skills. Realistic plans based on a good knowledge of the local needs, culture, practices, support and accessibility of resources should be the basis for capacity-building programmes in this area.**

D. The role of the public sector in human resources development

34. Public investment, which is key to any human resources development leading to sustained economic growth, requires spending in critical areas such as health, education, infrastructure, environmental management (including water and sanitation), information and communications, scientific research and land for affordable housing. Accountable and efficient public administration of all these areas is essential to national development, which, in turn, depends on the quality of human resources in the public sector. It is people, coordinated by institutions, who deliver public services such as health care and education. When public institutions perform well, it is primarily because of the motivation, skills and integrity of the human resources and the quality of leadership.

35. The *World Public Sector Report 2005* explores principles and techniques to enhance the quality and effectiveness of public administration and human resources management. The presence of a merit-oriented and career-based civil service is

decisive in explaining differences between countries in the performance of Governments in terms of quality of services and absence of corruption.

36. Among the important challenges, the report identifies the need to incorporate or reinvigorate desirable traditional civil service values, such as impartiality, integrity and dedication to public service, while at the same time promoting management innovations and efficiency, as well as encouraging forms of administration that are more open and responsive to new challenges and needs. Strong stakeholder engagement, including business and social organizations, would help increase the effectiveness and sustainability of public services. The engagement of these stakeholders would also ensure the relevance of public investments, lead to decisions that best address public needs, and serve as watchdogs for the development and implementation of government policies. By placing a greater emphasis on openness, partnerships and networking with stakeholders, it would be possible to draw on additional skills and resources and to ensure an impartial, professional and responsive public sector.

37. For example, access to and delivery of health services to rural communities should be designed with the participation of these communities, health-care providers and all other affected groups. This would help to: create a public service that better reflects the needs of both health-care recipients and providers (community members and nurses and physicians); augment its quality and sustainability over time; and ultimately improve the health status of rural communities. In the same vein, this approach should be used for human resources planning purposes and as a tool for recruiting health-care providers to service rural and remote communities.

38. **In order to help developing countries to build their public sector capacity it is essential that the international community provide support by developing and managing the necessary human resources and assisting them to set in place broad-based consultative approaches with national stakeholders for the design and implementation of effective and responsive public services.**

39. **The international community has an essential role in supporting developing countries to counter balance the loss of skilled and experienced public servants to migration or HIV/AIDS.**

E. United Nations system efforts to support human resources development in developing countries

40. Human resources development has featured prominently in the United Nations development framework, which highlights its importance for economic growth and sustainable development. Over the years, the development community, including the United Nations system, has increasingly focused on the relationship between human resources development and sustainable development. The achievement of the Millennium Development Goals is viewed as being directly or indirectly influenced by national human resources development policies and strategies. Available research and analysis show how human resources development is linked to the attainment of most of the Millennium Development Goals. In particular, poverty reduction, gender equality and prevention of HIV/AIDS, malaria and other diseases in developing countries are all directly affected by or affect human resources strategies.

41. Through the Millennium Development Goal framework, the development community and the United Nations are addressing the many dimensions of human development. Human resources development is taking on a new importance in the development agendas of many organizations of the United Nations system that are supporting national poverty eradication efforts. Many of these organizations have integrated a focus on human capacity development in their programmes and activities and seek to enhance national capacity to monitor and assess progress in pursuing this objective in the context of the Millennium Development Goals. For example, the work of the International Labour Organization (ILO) is guided by the human resources development recommendation No. 195, adopted in June 2004, which emphasizes education, training and lifelong learning. Similarly, Education for All is a key framework for the United Nations Educational, Scientific and Cultural Organization (UNESCO), as is basic health services for all for the World Health Organization (WHO). The United Nations Development Programme (UNDP) promotes understanding the concept of human poverty as a complement of income poverty, advocates nationally owned solutions and helps to make them effective through ensuring a greater voice for poor people, expanding access to productive assets and economic opportunities and linking poverty programmes with the international economic and financial policies of the targeted countries.

42. In the United Nations common strategic framework for development cooperation policies, such as the common country assessment/United Nations Development Assistance Framework process, human capacity development features prominently in support provided to national efforts to formulate national poverty eradication strategies based on local needs and priorities. The effectiveness and impact of United Nations system support will be enhanced by increasingly more comprehensive and integrated approaches by system agencies in this area, within the Millennium Development Goal framework. The report "One United Nations: Catalyst for Progress and Change", prepared by the United Nations System Chief Executives Board for Coordination, provides an analytical overview of how the organizations of the United Nations system are working together to help countries achieve the objectives set out in the Millennium Declaration. Significant progress has been made by the United Nations system in better integrating such a framework in its programmes and activities. The goals have helped galvanize inter-agency collaboration and joint initiatives, including strategies to achieve the objectives of the Education for All initiative by 2015. The United Nations Children's Fund (UNICEF) is also leading the girls' education initiative, a 10-year sustained effort to promote girls' education, involving 13 United Nations entities.

III. The impact of the migration of skilled labour and people with advanced education

A. Level and characteristics of migration of skilled labour

43. Over the last few years, issues related to international migration, especially migration of highly skilled workers, have received increasing attention from policymakers. The issue of international migration is addressed in a comprehensive way, in the 2004 *World Economic and Social Survey*. This increased attention reflects the sharp rise in the international demand for skilled labour generated by the evolution of modern economies and the forces of globalization over the last decade

and a half, which have resulted in a significant outflow of educated elites from developing to more developed countries.

44. Broadly, migration of skilled labour and people with advanced education has been stimulated by: a global economy that is becoming increasingly knowledge-intensive and values higher education and better skilled labour; increasing wage inequality and the unbalanced professional opportunities in different countries and regions, in particular between more developed and less developed economies; and recruitment policies of more developed countries, designed to ease shortages of skilled workers in their labour forces.

45. Uneven and unsteady global labour market conditions and demographic imbalances, in particular between developed and developing countries, may also contribute to the acceleration of international mobility. Highly skilled people have migrated regionally or further abroad where they could improve their economic and professional perspectives. For talented and highly skilled people, emigration sometimes represents the only way to attain better job opportunities, higher salaries and/or access to technical facilities, infrastructures and the research and development opportunities to expand their careers.

46. The boom in information and communication technologies has further enhanced the role of human capital in economic growth and contributed to this outflow, although competencies and skills in this field are not the only ones in demand. Ageing populations in most countries of the Organization for Economic Cooperation and Development (OECD) and the related increase in health-care requirements have increased the demand for medical personnel. Doctors, nurses, nursing aids and assistants are particularly sought after in the United States of America, the United Kingdom of Great Britain and Northern Ireland, Canada and many other OECD countries. Increasingly, professionals in the health and information and communication technology fields move from India, Pakistan, South Africa and the Philippines to countries offering greater opportunity, including Canada, Germany, the United Kingdom and the United States. By 2000, it was estimated that 30 to 50 per cent of information technology workers and 60 per cent of physicians in the Philippines had emigrated overseas, mostly to English-speaking countries, often facilitated by bilateral agreements with host countries. The same applies to teachers, translators, and specialists in science and technology, and in the biomedical and agro-food sectors.

47. Competition among industrialized nations to attract the human resources that they lack and to retain those who might emigrate is intense. Many countries amended their legislation in the late 1990s to facilitate the entry of skilled foreign workers and to give foreign students access to their labour markets upon graduation. Most countries introduced greater flexibility in their existing labour migration policies, while others also launched more specific recruitment programmes to meet labour shortages. In addition to immigration policy measures, some OECD countries have introduced specific fiscal incentives to attract highly skilled migrants. Some of these offer virtually income-tax-free status for up to five years or large tax deductions for certain categories of highly qualified personnel, for example: 25 per cent in Sweden, 30 per cent in the Netherlands, 35 per cent in Austria or 40 per cent in the Republic of Korea. New legislation along the same lines has been recently adopted in France and is under consideration in New Zealand. At the same time, some countries have also taken steps to encourage nurses and doctors to stay in their

home countries, for example through the Commonwealth Code of Practice for the International Recruitment of Health Workers (2003).

48. The acceleration of the mobility of highly skilled labour, in particular from developing to developed countries, has once again raised concerns about the "brain drain" and the resulting loss of economic potential in the countries of origin. Developing countries experience shortages in a number of highly skilled occupations affecting vital sectors, such as health care and education. This could potentially undermine not only their economic growth, but also their ability to achieve the Millennium Development Goals. Data indicate that 56 per cent of all emigrating physicians move from developing to developed countries, while developing countries receive only 11 per cent of emigrating physicians, principally from other developing countries. Rates are even higher for nurses. Developing countries invest about $500 million each year, an amount equivalent to roughly 25 per cent of the total official development assistance developing countries receive for the health sector, in training health-care professionals, who are then recruited by or otherwise move to developed countries.

49. Despite this increased mobility and the heightened concern about its impact, the quality and comparability of international data on migration have not been sufficiently well kept to inform policymakers on ways to manage it. There has been no systematic empirical assessment of its dynamics, determinants and impact, especially its impact on the human resources and economic growth of the developing countries themselves.

50. While receiving countries and migrants are generally believed to profit from the opening up of borders to the international migration of highly skilled labour, which adds to their accumulation of human capital and knowledge, the impact on countries of origin is not so clear. The effects of migration tend to be seen as an erosion of the human resources base, which can have a negative impact on the economic and social development of home countries and increase their economic dependency on remittances from savings abroad. Negative effects are also visible on productivity, research and development, tax revenues and the opportunity cost of public expenditure on education. Potential favourable effects from migration of skilled labour include potential technology and knowledge transfer and capital investments by overseas or returning workers. The magnitude of the brain drain is also relevant to its overall impact. Additional analysis is needed to assess the magnitude of the impact of the brain drain on human resources development.

51. A recent study of immigrants in OECD countries shows that migration of skilled labour affects developing countries in different ways, depending on their size. The study indicates that the highest brain-drain rates (emigration of highly skilled labour as a proportion of the potential educated labour force in sending countries) are observed in the Caribbean, Central America and Western and Eastern Africa. Countries with populations below four million have been the most affected. Emigration rates exceed 80 per cent in Suriname, Guyana and Jamaica.

52. This study indicates that small countries are more adversely affected by emigration of highly skilled workers, which prevents them from reaching a critical mass of human resources necessary to foster long-term economic development. Larger countries, on the other hand, seem not to be significantly affected and indeed may benefit from the indirect effects associated with such mobility (including return migration, knowledge and technology transfers and remittances).

53. Some poor countries are more vulnerable because human capital accumulation has been the result of enormous public investment efforts made in the context of tight public budgets. For example, it is estimated that each emigrating African professional represents a loss of $184,000 to Africa and that South Africa alone has lost more than $5 billion owing to the migration of highly skilled labour between 1997 and 2001.

54. In developing countries, the international mobility of highly skilled workers undoubtedly presents a serious challenge. Economic theory and available research suggest that the direct impact of brain drain is the loss of a sizeable number of highly educated nationals abroad, which represents a reduction in the stock of human capital or knowledge so critical to productivity and economic growth. It also sets in play a number of forces that can lead to economic growth. The positive example of some countries, in which migration of skilled labour triggered a virtuous cycle of economic growth, creates an incentive for developing countries to manage rather than control migration.

B. Management of highly skilled labour migration and policy options for developing countries

55. Skilled workers are likely to become more mobile in international labour markets. Economic theory has identified significant positive effects of skilled emigration. For example, return migrants bring back skills, work experience and savings as a boost to productivity. Expatriates contribute significant capital inflows through remittances and transfer of knowledge and technology through networks maintained with the countries of origin, which can increase productivity and economic growth of the home countries. Neoclassic models, on the other hand, find that a high level of skilled emigration slows economic growth and "new growth" models find even greater reduction of economic growth and increases in poverty. Recently, using the concept of "brain circulation", the migration of skilled workers is being seen as a component in the flow of goods and information in a global economy. It emphasizes the potential for exchanges rather than losses between countries and identifies the need to engage appropriately in the exchange of skills in the global labour market as a central challenge for developing countries.

56. The effects of the emigration of highly skilled labour on the development of human resources and the economic growth of developing countries depend on whether or not the loss of such labour ends up being a medium- to long-term drag on economic growth. The extremes are exemplified by Indian information technology (IT) workers and African health-care workers. The emigration of Indian IT professionals set in motion virtuous cycles that led to new industries and jobs and improved the quality of IT services throughout India. This suggests that non-migrant Indians also benefited through knowledge and technology transfers, which generated human capital increases and capital investment in the country. The Indian example illustrates that returnees can indeed bring valuable management experience, entrepreneurial skills and access to global networks, and even venture capital. The resulting increase in human capital through knowledge and technology transfer also makes the country more attractive to local and foreign investors, triggering a virtuous cycle of economic growth. On the other side of the spectrum, the emigration of African doctors and nurses has reduced the availability of skilled workers in the continent. This has in some cases led to worse health care, especially

in rural areas, discouraged investment and triggered a vicious cycle of declining productivity and income. Since doctors and teachers cannot quickly be replaced internally, because of the delayed return on education, their migration necessarily brings a net loss from "brain drain".

57. A recent ILO study explores possible policy responses for developing countries to international mobility of skilled labour that might help to reduce or offset its negative effects. The study promotes policies that focus on improving domestic opportunities in the education sector, target domestic economic growth and reduce the incentive to emigrate. Giving people a reason to stay (or to return) is doubtless the most effective policy for reducing emigration and the surest long-term means of boosting the average level of human capital and economic growth. The study also identifies policies designed to reap benefits from the expatriate population, or "diaspora", as an effective way of offsetting the negative effects of migration. Much of this happens on its own, as there is a natural proclivity for emigrants to maintain ties with their home country through human and financial networks. This generates flows of knowledge, technology, investment and trade to and from their home country, which is also facilitated by contacts between home and host country academic and private sector institutions and migrant associations. Whether emigrants are permanent or short-term, their linkages with the home country may offer significant benefits that offset the loss from brain drain.

58. There is no single, simple policy option that could guarantee a win-win outcome, where all stakeholders, migrants, countries of origin, receiving countries, would gain from the international mobility of skilled workers. The policies of developing countries encouraging short-term migration, returns and remittances are more likely to trigger a virtuous economic cycle. In the case of Taiwan, Province of China, remittances and returns have hastened an economic expansion led by knowledge and technology transfer and capital investments from the information and communication technology sector. There are, however, only a few similar cases (India and the Republic of Korea). More often than not, countries of origin fall into a vicious cycle in which professionals flee their countries of origin, which then experience net losses in terms of human capital and economic growth. These countries are generally left with very limited policy options. Restrictive emigration policies aimed at maintaining the human resources base needed to achieve economic expansion are difficult to sustain, for it is often hard for graduates to find good jobs locally. In addition, home countries face fierce competition from developed countries for such labour. **The increasingly high mobility of skilled labour and the worldwide competition for these workers will make it increasingly necessary to shift from "migration control" to "migration management".**

59. Policy reforms aimed at attracting or retaining highly skilled labour in developing countries should not only be driven by competition for human resources, but should also take into consideration other policy dimensions. **Home countries should combine investment in human resources development with economic incentives to strengthen labour markets and institutions; they should also facilitate and foster indigenous entrepreneurship and innovation.** The relative success of India, Taiwan, Province of China, the Republic of Korea and Ireland in attracting return migration has been attributed to the opening of their economies and to policies fostering investment in innovation and research and development. It has also been attributed to the fact that these countries not only support the upgrading of established producers but also indigenous entrepreneurship. The Government of the

Republic of Korea launched a training programme for return migrants, and within the first six months of its establishment, 4,000 workers were reported to have participated in the scheme. The Bureau of Foreign Employment of Sri Lanka has adopted reintegration programmes, including loan schemes and scholarships for the education of the children of returning migrants. The Governments of Uruguay and Argentina have implemented policies that favour the return of migrants through the provision of tax exemptions for the products brought back by migrants.

60. Migrant associations around the world have the explicit purpose of gathering resources to support hometown projects or connect country nationals, entrepreneurs and professionals, while promoting the exchange of skills and knowledge. Some of these networks are directly promoted by home country Governments, for instance the three-for-one programme in Mexico in which migrants, and the local, state and federal governments each share 25 per cent of the cost of a particular hometown project.

61. Support of the international community to initiatives encouraging the exchange of knowledge between professionals in home countries and the diasporas have had positive results that may be further supported. The United Nations Information and Communication Technologies Task Force, along with the United Nations Development Fund for Women (UNIFEM), the United Nations Fund for International Partnerships, the Digital Partners Institute and Grupo Cerfe (Banco Interamericano de Desarrillo) have developed an initiative for Africa. Since 2002, this initiative has already developed an African database of information and communication technology skills, a social venture fund for Africa and a steering committee to manage the implementation of the process (the Digital Diaspora Network for Africa). A similar partnership has been established in 2003 for the Digital Diaspora Network for the Caribbean. A different although parallel initiative is the United Nations programme called Transfer of Knowledge through Expatriate Nationals (TOKTEN), by which voluntary expatriate high-skilled migrants are financed to visit their countries of origin for a temporary period of 3 to 12 weeks. During this period, experts work in the Government, universities and public and private enterprises. The programme pays a round-trip airfare ticket and living expenses for the period of service.

62. **Concerted strategies between receiving and home countries, in partnership with international agencies and development partners, to address the issue of skilled labour migration as an integral part of development cooperation efforts could help ensure a more favourable outcome for developing countries from the international mobility process. An important component of these strategies should be the strengthening or building of migrants networks with their home countries to facilitate the flow of knowledge, technology, investment and trade.**

C. Measures to shift from "brain drain" to "brain circulation"

63. Only broad-based approaches to managing migration, involving both countries of origin and destination, aimed at reducing push factors in origin countries and limiting some of the adverse effects of international recruitment in receiving countries, can result in a significant sharing of the benefits attached to international

mobility. If there is to be progress from the "brain drain" to "brain circulation", adequate incentives must come from both origin and destination countries.

64. In the home country, brain circulation could be facilitated through labour and migration policies. **Migration policies that facilitate home visits by migrants, the sending of remittances, the transfer of technologies and tariff reduction on imported equipment from migrants may improve the chances of creating regular contact and strong links with home countries and inducing eventual return. Such policies may further encourage migrants to establish micro-enterprises in the home country.** The software industry is a good example of the way in which cross-border flows of skilled workers have become essential to the way firms in developing and developed countries connect and transact. **Labour policies can address shortages of skilled labour and reduce the pressure of international demand for skilled workers by adjusting domestic salaries or providing enhanced career development prospects in the economic sectors affected.**

65. At the international level, bilateral agreements could increasingly involve highly skilled and qualified labour, such as the temporary programmes for nurses from the Philippines working in Norway and the Netherlands. In general, these agreements provide a means for countries to strengthen coordination of migration issues and provide protection to their nationals abroad while safeguarding the well-being of migrants on their own soil. Occasionally host countries also offer the opportunity to improve the skills of immigrants, leading to significant transfers of skills and technology to their home country. At the multilateral level, **stakeholders should work together to establish good practices in the employment of highly skilled labour. Countries should agree on a global arrangement to manage employment, recruitment, training and work permit schemes to facilitate brain circulation, ensure fair competition for skilled labour and ultimately benefit all stakeholders. This sensitivity to shared responsibilities should be reflected by public and private institutions in charge of employment, recruitment, training and work permit schemes in host and recipient countries.**

66. States, whether countries of origin, transit or destination of migrants, share a common ground in terms of migration interests, concerns, priorities and benefits. **Countries should increase coordination and collaboration at the global, regional and subregional levels in order to share and improve data and information on sectors where there is labour shortage and/or surplus and facilitate mobility and flexibility of labour markets to meet labour demand worldwide.**

67. Multilateral initiatives, which are already in place in many regional blocs, including MERCOSUR (the Common Market of the South), the Andean Community and the Central American Integration System, include specific recognition of the importance of migration. **In this regard, subregional integration agreements offer suitable opportunity for dealing with migration as a vital component of partnerships between members who share greater similarities in terms of their socio-economic conditions. Efforts to strengthen the bilateral, regional and multilateral agreements to facilitate labour mobility should be supported. Countries should be encouraged to undertake the bilateral, regional and interregional consultative processes that are central to the development of**

cooperative migration management and contribute to cooperation at the global level.

68. International migration has important implications for other areas and policies. The multilateral agenda must include efforts to systematically address questions of migration in other processes. For example, migration should be addressed in cooperative programmes between regions and by regional organizations, as well as in global forums concerned with trade, environment and taxation. Free trade area agreements such as the North American Free Trade Agreement (NAFTA), have integrated some dispositions related to the free movement of certain categories of professionals. Policy changes that liberalize migration across international borders may give rise to "gains from trade" even as they may increase the competitive pressures on national and subnational fiscal systems. The ongoing negotiation process of the General Agreement on Trade in Services (GATS), Mode 4, which rules the movement of natural persons to provide services, may standardize definitions on occupations and duration of stay of foreign workers and have far-reaching effects on the movement of highly skilled labour. Other intergovernmental consultation processes and international initiatives are contributing to placing migration on the global agenda and managing this phenomenon for the benefit of all. The General Assembly resolution on international migration and development and the establishment by the Secretary-General of a Global Commission on International Migration (GCIM) are important steps in this direction. Recognizing the increasing importance of this issue, the Assembly also decided to hold a high-level dialogue on international migration and development in 2006 in order to discuss its multidimensional aspects and identify ways and means to maximize its developmental benefits and minimize its negative impacts.

Notes

[1] United Nations Development Programme, *Human Development Report*, 1990.

[2] Amartya Sen, *Development as Freedom*, Random House, New York, 1999.

[3] Gustav Ranis and Frances Stewart "Strategies for Success in Human Development", Queen Elizabeth House Working Paper Series (QEH WPS32), University of Oxford, January 2000.